

Regional Director, Bureau of Sport Fisheries
& Wildlife, Portland, Oregon

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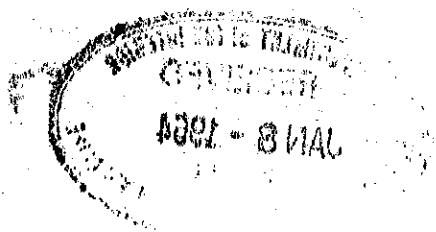
Refuge Manager, Medicine Lake NWR,
Medicine Lake, Montana

Annual Water Program.

Please find attached the Annual Water Program for Medicine Lake
Refuge submitted for approval.

Owen H. Vivion
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1963



MEDICINE LAKE NATIONAL WILDLIFE REFUGE
MEDICINE LAKE, MONTANA

ANNUAL WATER PROGRAM

Water supplies for the impoundments of the Medicine Lake Refuge were more than adequate for much of the 1963 season becoming slightly impoverished after mid-September. Our Spring run off was moderately heavy but brought all impoundments to above recommended operational levels in spite of the fairly large amount of water we were forced to dump down the Muddy Creek drainage. Heavy summer rains persisted until mid-September and brought large amounts of water into the refuge counteracting the effects of the usual heavy evaporation rate.

The inlet gate to Katy's Lake was frozen shut (from lack of use), therefore, the only water to enter the lake was run off from its own watershed. This gate has since been repaired. A moderate Botulism or Algae Poisoning occurred in this area this summer as usual, but was not severe enough to warrant lowering of the water level.

Water was dumped from Unit No. 12 continuously up to May 2, when the gate was closed for the summer.

The control gate for Unit No. 11 is frozen shut (from lack of use), but the spillway elevation is also the recommended operational level. Water was dumped from this unit continuously up to May 2 when the flow from No. 12 was stopped.

Unit No. 10 water outlets are choked with bulrush stands and are equipped with very small control structure facilities. Water spilled from this unit continuously up to the end of September.

The Homestead Lake, Unit No. 6, was flushed with water circulated from the Big Muddy Creek continuously up to mid-November when the Indian Service Dam was opened to avoid its "freezing in". An outbreak of Botulism or Algae Poisoning was noted in this unit on August 4 and the gates were opened to draw the water level down in an attempt to relieve the outbreak. During Mr. Marshall's visit to the refuge it was decided to leave the unit low for the winter and to attempt some bulrush control by mowing during the freeze up period. The unit will be filled to operational level in the spring of 1964 with water from either run off in the Big Muddy or storage in Medicine Lake proper.

Medicine Lake Proper was spilled up to early July to bring it to about .5' below recommended operational elevation in order to prevent a strong east wind from pushing water over the spill area which was to undergo erosion damage repairs this fall. A considerable drying time was necessary.

The 1963 water use, source, and distribution was as follows:

<u>AREA OF USE</u>	<u>VOLUME (Acre-Feet)</u>	<u>SOURCE</u>
Medicine Lake (Unit 4)	14,800	Big Muddy & Lake Creek
Homestead Lake (Unit 6)	9689 3,400	Big Muddy, Sheep & Lost Creek
Unit No. 10	1,900	Cottonwood, Lake & Sand Creek
Unit No. 11	1,100	Cottonwood, Lake Creeks
Unit No. 12	1,400	Lake Creek
Katy's Lake	700	Lake Creek
Total	23,300	

see 1964 WUR 2012
1963-1964 Summary
2012

Levels in each of the impoundments and deficiency at the end of December 1963 is as follows:

<u>IMPOUNDMENT</u>	<u>1963 LEVELS</u>	<u>OPERATIONAL LEVELS</u>	<u>DEFICIENCY</u>	
			<u>FEET</u>	<u>ACRE FEET</u>
Medicine Lake (Unit 4)	1942.04	1943.00	.96	8,352
Homestead Lake (Unit 6)	1936.40	1937.75	1.25	4,087
Unit No. 10	1944.71	1945.00	.29	251
Unit No. 11	1951.22	1951.54	.32	34
Unit No. 12	1953.24	1954.00	.76	471
Katy's Lake	1953.80	1954.00	.60	192
Total				13,387

1964 ANNUAL WATER PROGRAM

Monthly Record of Gauge Readings

IMPOUNDMENTS	No. 4	No. 6	No. 10	No. 11	No. 12	Katy's Lake
PRESIENT OPERATIONAL LEVELS	1943.00	1937.65	1945.00	1951.54	1954.00	1954.00
RECOMMENDED LEVELS	1943.00	1937.65	1945.00	1951.54	1954.00	1954.00
LEVELS BY MONTH						
January	Frozen	Frozen	Frozen	Frozen	Frozen	Frozen
February	Frozen	Frozen	Frozen	Frozen	Frozen	Frozen
March	1944.08	1936.78	1945.43	1951.70	1954.02	1953.46
April	1942.60	1937.90	1945.17	1951.02	1953.80	1953.70
May	1942.56	1937.66	1945.23	1951.54	1953.84	1953.84
June	1942.82	1937.16	1945.11	1951.38	1954.00	1953.92
July	1942.52	1937.44	1945.21	1951.48	1953.88	1953.90
August	1942.40	1937.28	1945.23	1951.52	1953.50	1953.64
September	1942.34	1937.34	1945.06	1951.40	1953.48	1953.52
October	1941.86	1936.64	1944.89	1951.30	1953.16	1953.40
November	1942.04	1936.40	1944.71	1951.22	1953.24	1953.30
December	Frozen	Frozen	Frozen	Frozen	Frozen	Frozen

Approximately 14,000 acre feet of water will be required in 1964 to bring all impoundments to operational levels. This is about the same amount required in 1963 and about one-half the amount required in 1962. Prospects for an adequate spring run off are good and no difficulty in attaining operational levels is expected.

Recommended water levels have been set at or near the elevation best suited for the production of waterfowl foods and nesting cover. There is no apparent need to adjust the recommended levels at this time.

Water use and distribution, other than as noted below, conformed with our established water rights. As reported recently, we have water stored and used in areas outside of our water rights fillings as follows:

FILING

LEGAL DESCRIPTION OF AREA OF STORAGE OR USE

Lake Creek

Secs. 4, 7, 8, 9, 17 and 18, T32N R58E; Sec. 14 & 31, T32N R57E.

Cottonwood Creek

Sec. 3, T30N R55E

Sand Creek

Sec. 31, T32N R57E